

***Charlotte Mecklenburg Utilities
Interbasin Transfer
2002 Annual Report***

Charlotte Mecklenburg Utilities (Utilities) operates the water and wastewater system that serves the City of Charlotte, Davidson, Huntersville, Mint Hill, Matthews, Pineville, and much of the unincorporated areas of Mecklenburg County. This utility system, covering most of Mecklenburg County, is divided between two drainage basins as designated by NC General Statutes. The western portions of the system are within the Catawba River basin and the eastern portion is within the Rocky River basin. Water that is transferred from the Catawba River basin to the Rocky River basin that is not returned to the Catawba is defined as interbasin transfer (IBT).

Water is withdrawn from the Catawba River basin at two locations. An intake at Lake Norman sends water to the North Mecklenburg Water Treatment Plant. A second intake at Mountain Island Lake sends water to the Franklin Water Treatment Plant and the Vest Water Treatment Plant. Potable water from these three plants is delivered through an interconnected distribution system to customers throughout Mecklenburg County.

Utilities treats wastewater at five advanced wastewater treatment plants (WWTP's) which discharge into small streams in Mecklenburg County. Four of the streams are tributary to the Catawba River basin and one (Mallard Creek) is tributary to the Rocky River basin. Utilities also sends wastewater from several portions of Mecklenburg to the Rocky River Regional Wastewater Treatment Plant (RRRWWTP) operated by the Water and Sewer Authority of Cabarrus County (WSACC). The RRRWWTP discharges in the Rocky River.

Utilities transfers treated, potable water to the City of Concord through several metered connections with their water system. Water is transferred as an emergency back-up to Concord's routine supply which comes from Lake Howell and several smaller reservoirs. All of these reservoirs are within the Rocky River basin. Wastewater from Concord is treated at the RRRWWTP. Drought conditions for the past several years, including 2002, have made it necessary for Concord to utilize these connections to maintain service to their customers.

Charlotte Mecklenburg Utilities' petition to increase the amount of water transferred from the Catawba basin to the Rocky River basin was approved by the North Carolina Environmental Management Commission (EMC) on March 14, 2002. The petition allows Utilities to transfer up to 33 million gallons per day (mgd).

The approved petition requires Utilities to report daily IBT amounts annually to the North Carolina Division of Water Resources until such time as the transfer amount exceeds 80% of the authorized amount, which would be 26.4 mgd. Once that amount is exceeded, Utilities is required to report monthly.

Table 1 below summarizes 2002 daily IBT amounts. The table considers the daily amounts of water delivered from the Catawba basin to customers within Mecklenburg County based on combined pumping records from the three water treatment plants. The values shown in Table 1 include the amount of water transferred to the City of Concord through metered connections. Transfers to Concord are included as average daily values over the billing period which is approximately monthly. The full amount transferred to Concord is IBT since none is returned from Concord to the Catawba basin. Daily wastewater treatment plant discharges are used to determine how much flow is returned to the Catawba basin and how much is discharged directly to the Rocky River basin from Utilities' Mallard Creek WWTP. Wastewater flows sent to RRRWWTP (and thereby

discharging into the Rocky River basin) are included in Table 1 as average daily flows based on wastewater flow meter readings which are made approximately monthly. Consumptive use within the Rocky River basin is considered IBT according to North Carolina statutes. Consumptive use occurs due to septic tank systems, lawn irrigation, inclusion of water in packaged products, evaporation, and other uses. The amount of this consumptive use is estimated based on criteria described in Utilities' IBT petition.

Combination of the data allows the calculation of the daily IBT amount. Table 1 presents these amounts both as a percentage of the authorized amount and as a daily transfer amount in mgd. The data is also presented in two charts which depict graphically the IBT amounts.

The data indicates that the maximum amount of IBT for year 2002 occurred on November 18, 2002, and was 20.47 mgd, or 62% of the authorized maximum day value of 33 mgd. This maximum daily value represents a sharp spike even relative to other peak days that are more typically about 17 mgd. An unusually high discharge from the Mallard Creek WWTP led to the November 18 value. The average IBT for 2002 was 12.18 mgd, which is about 37 % of the authorized maximum day value.

A special condition in the EMC's decision granting Utilities' IBT petition requires Mecklenburg County to summarize progress in implementation of watershed management approaches of the Surface Water Improvement and Management Program (S.W.I.M. program). Mecklenburg County Water Quality Program's report on this condition is below:

Basic countywide water quality modeling capabilities have been developed and are being upgraded to include advanced modeling capabilities for planning/land development. A fully functioning water quality model has been developed for McDowell Creek in the Town of Huntersville where rapidly degrading water quality conditions have been experienced due to growth within the watershed. Outputs from the McDowell model were used to develop a watershed based approach for identifying alternative management strategies targeted toward preventing further water quality degradation. As a result of this effort, a performance based land development ordinance was developed that relies on Low Impact Design (LID) strategies to protect water quality from future development activities, which was adopted by the Town of Huntersville on February 17, 2003. Water quality modeling and watershed based planning initiatives are also being used in the design of two (2) large mixed use developments along Lake Wylie to protect water quality from land development activities. Efforts are currently underway to expand this watershed based management approach to other areas of the county, with the highest priority being the Goose Creek basin in Mint Hill.

A second special condition requires a report on the stakeholder process to investigate water quantity control from single-family development and water quality control for all development until that process is completed. The condition suggests that the feasibility of single-family detention should be considered along with any needed ordinance revisions. Mecklenburg County's Water Quality Program reports:

The water quality ordinance developed for the Town of Huntersville provides water quality controls for single-family development as well as establishes requirements for single-family detention. The McDowell model clearly demonstrated that significant negative water quality impacts result from increased storm water flows associated with development in the watershed and increased impervious surface cover. The model established that addressing overland nonpoint source pollutants was not adequate to protect water quality but that measures were also needed to address these increased flows. As a result, the Huntersville

Ordinance was designed to address both water quality and detention. This is the first time in Mecklenburg County that the quality and quantity of storm water runoff has been addressed in a comprehensive manner. The objective is to use a similar approach in the other Towns as we expand our watershed based management efforts. The basic objectives of the Huntersville Ordinance are listed below.

- *Minimize increases in storm water runoff from development or redevelopment in order to reduce flooding, siltation and streambank erosion, and maintain the integrity of stream channels.*
- *Utilize Low Impact Design (LID) strategies to minimize increases in non-point source pollution caused by storm water runoff from development or redevelopment. The goal of LID is to develop site design techniques, strategies, and BMPs to store, infiltrate, evaporate, retain, and detain runoff on the site to more closely replicate pre-development runoff characteristics and to better mimic the natural and unique hydrology of the site thereby limiting the increase in pollutant loads caused by development.*
- *Minimize the total volume of surface water runoff that flows from any specific site during and following development in order to replicate pre-development hydrology to the maximum extent practicable.*
- *Reduce storm water runoff rates and volumes, soil erosion and non-point source pollution, to the extent practicable, through storm water management controls (BMPs) and to ensure that these management controls are properly maintained and pose no threat to public health or safety.*

The performance criteria contained in the Huntersville Ordinance are provided below.

- *All storm water treatment systems used to meet these Performance Criteria shall be designed to achieve average annual 85% Total Suspended Solids (TSS) removal for the developed area of a site. Areas designated as open space that are not developed do not require storm water treatment. All sites must employ LID practices to control and treat runoff from the first inch of rainfall.*
- *LID practices or a combination of LID and conventional storm water management practices shall be used to control and treat the increase in storm water runoff volume associated with post-construction conditions as compared with pre-construction (existing) conditions for the 2-year frequency, 24-hour duration storm event in the Rural and Transitional Zoning Districts. For all other Zoning Districts, LID practices or a combination of LID and conventional storm water management practices shall be used to control and treat the increase in storm water runoff volume associated with post-construction conditions as compared with pre-construction (existing) conditions for the 1-year frequency, 24-hour duration storm event. This may be achieved by hydrologic abstraction, recycling and/or reuse, or other accepted management practice as described in Section 6 of the Huntersville Water Quality Design Manual.*
- *Where any storm water BMP employs the use of a temporary water quality storage pool as a part of its treatment system, the drawdown time shall be a minimum of 48 hours and a maximum of 120 hours.*
- *Peak storm water runoff rates shall be controlled for all development above 12% imperviousness. The*

peak storm water runoff release rates leaving the site during post-construction conditions shall be equal to or less than the pre-development peak storm water runoff release rates for the 2-year frequency, 24-hour duration storm event and 10-year frequency, 24-hour duration storm event. The emergency overflow and outlet works for any pond or wetland constructed as a storm water BMP shall be capable of safely passing a discharge with a minimum recurrence frequency of 50 years. For detention basins, the temporary storage capacity shall be restored within 72 hours. Requirements of the Dam Safety Act shall be met when applicable.

- *No one BMP shall receive runoff from an area greater than five (5) acres. However, the total drainage area from BMP's used in series (i.e., integrated) can exceed this five (5) acre maximum.*

A third special condition in the EMC's decision imposes a moratorium on the installation of new IBT water lines into Goose Creek subbasin. This moratorium remains in place.

The EMC's decision also requires Utilities to report on drought management activities. The summer of 2002 brought extreme drought conditions to much of North Carolina, including Utilities' service area. Utilities imposed mandatory water conservation measures for a ten-week period between August 21 and October 31, 2002. During this period, customers were prohibited from watering lawns between 4:00 a.m. and 9:00 p.m. Coupled with an aggressive enforcement effort, the program resulted in significant reductions in water demand. From last fall until this spring Utilities' has evaluated the lessons learned from 2002. Utilities has developed water conservation ordinance revisions that will enhance Utilities' ability to respond to water shortages by imposing varying degrees of usage restrictions and to enforce ordinance provisions. The revised ordinance is subject to approval by Charlotte City Council and is scheduled for their consideration on March 24, 2003.

Chart 1 – Daily IBT Amounts

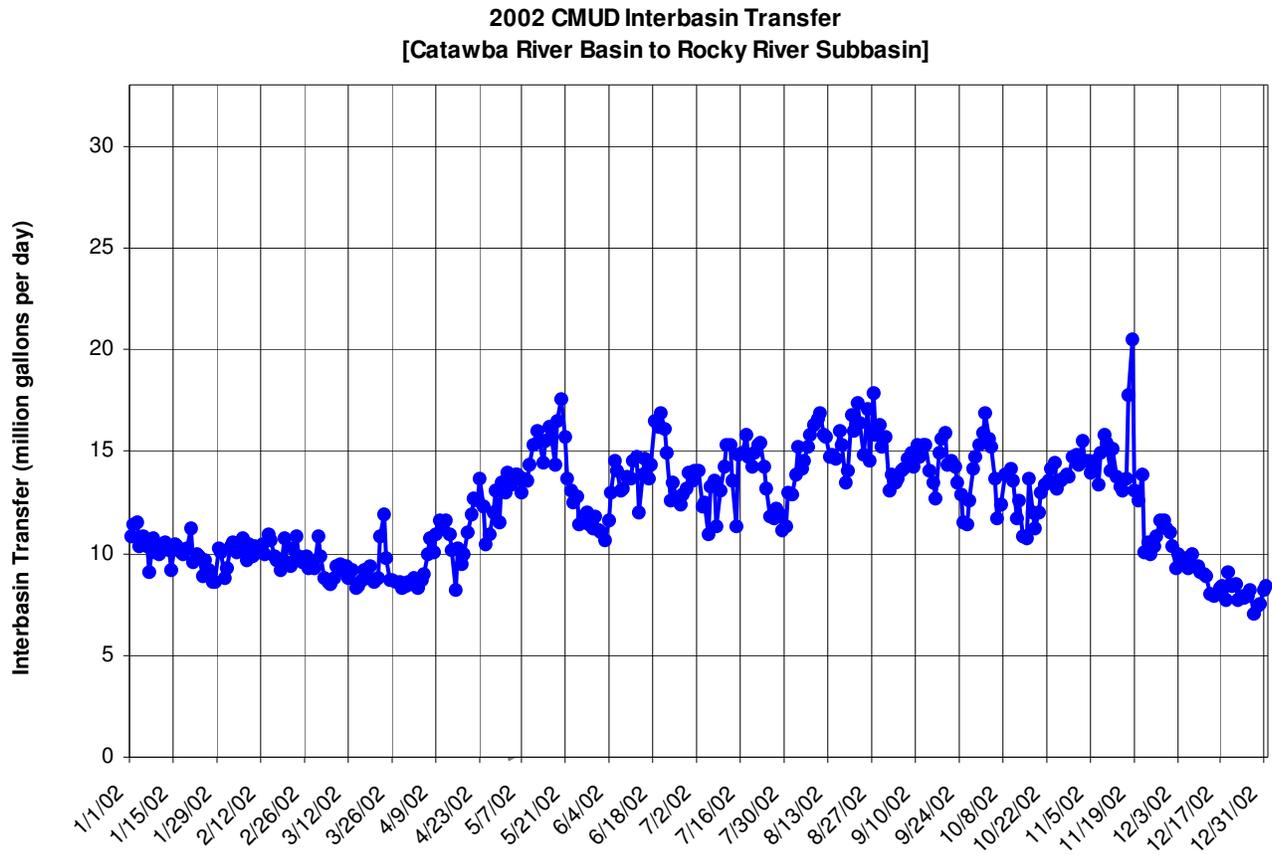


Chart 2 – Daily IBT as Percentage of Authorized Maximum

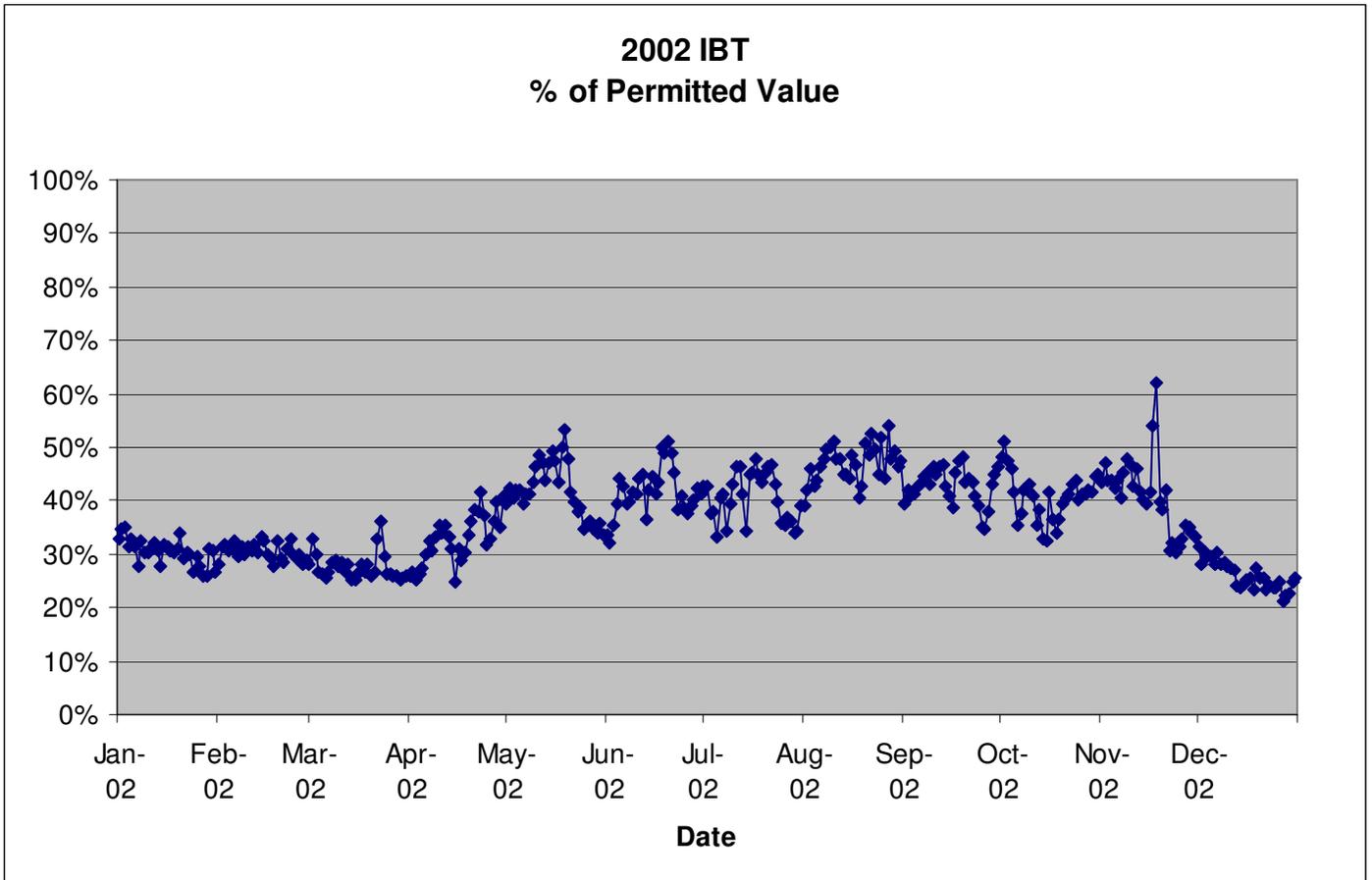


Table 1 – 2002 IBT Summary

DATE	Finished Water Pumping from Catawba (mgd)	Consumptive Use (mgd)		Portion of Water Use Discharged as Wastewater (mgd)		Total Return to Catawba Basin (mgd)	Interbasin Transfer (mgd)	% of Withdrawal Returned	IBT as % of Certificate
		Catawba Basin (mgd)	Rocky River Basin (mgd)	Catawba River Basin (mgd)	Rocky River Basin (mgd)				
1/1/02	87.66	21.30	3.47	55.55	7.33	76.86	10.80	88%	33%
1/2/02	93.39	24.31	3.96	57.69	7.43	82.00	11.39	88%	35%
1/3/02	88.66	21.42	3.49	55.73	8.02	77.15	11.51	87%	35%
1/4/02	89.61	16.95	2.76	62.33	7.56	79.29	10.32	88%	31%
1/5/02	90.99	19.56	3.18	60.60	7.64	80.17	10.82	88%	33%
1/6/02	87.11	16.48	2.68	60.30	7.64	76.78	10.33	88%	31%
1/7/02	87.93	16.64	2.71	62.18	6.41	78.81	9.11	90%	28%
1/8/02	90.52	17.13	2.79	62.66	7.95	79.78	10.74	88%	33%
1/9/02	83.42	15.78	2.57	57.59	7.47	73.38	10.04	88%	30%
1/10/02	85.76	16.23	2.64	59.58	7.32	75.80	9.96	88%	30%
1/11/02	86.09	16.29	2.65	59.58	7.58	75.87	10.23	88%	31%
1/12/02	82.82	16.34	2.66	55.94	7.88	72.29	10.54	87%	32%
1/13/02	84.14	15.92	2.59	58.06	7.58	73.98	10.17	88%	31%
1/14/02	78.13	14.78	2.41	54.21	6.74	68.99	9.14	88%	28%
1/15/02	86.81	16.42	2.67	59.94	7.77	76.36	10.45	88%	32%
1/16/02	86.52	16.37	2.66	59.85	7.64	76.22	10.30	88%	31%
1/17/02	83.46	15.79	2.57	57.61	7.49	73.40	10.06	88%	30%
1/18/02	83.19	15.74	2.56	57.44	7.44	73.18	10.01	88%	30%
1/19/02	81.41	15.40	2.51	55.73	7.77	71.13	10.28	87%	31%
1/20/02	84.40	15.97	2.60	57.19	8.64	73.16	11.24	87%	34%
1/21/02	82.79	15.66	2.55	57.52	7.06	73.18	9.61	88%	29%
1/22/02	84.80	16.04	2.61	58.75	7.39	74.80	10.00	88%	30%
1/23/02	81.77	15.47	2.52	56.45	7.33	71.92	9.84	88%	30%
1/24/02	82.95	15.69	2.55	58.42	6.28	74.11	8.84	89%	27%
1/25/02	83.35	15.77	2.57	57.88	7.14	73.65	9.70	88%	29%
1/26/02	81.99	15.51	2.53	57.34	6.61	72.85	9.14	89%	28%
1/27/02	82.91	15.69	2.55	58.61	6.05	74.30	8.61	90%	26%
1/28/02	81.57	15.43	2.51	57.57	6.06	73.00	8.57	89%	26%
1/29/02	83.83	15.86	2.58	57.73	7.65	73.60	10.23	88%	31%
1/30/02	83.86	15.87	2.58	57.92	7.49	73.79	10.07	88%	31%
1/31/02	84.19	15.93	2.59	59.49	6.18	75.42	8.78	90%	27%
2/1/02	83.78	15.85	2.58	58.67	6.68	74.52	9.26	89%	28%
2/2/02	83.57	15.81	2.57	57.40	7.79	73.21	10.36	88%	31%
2/3/02	83.71	15.84	2.58	57.34	7.95	73.18	10.53	87%	32%
2/4/02	80.98	15.32	2.49	55.59	7.57	70.91	10.06	88%	30%
2/5/02	84.46	15.98	2.60	58.19	7.69	74.17	10.29	88%	31%
2/6/02	84.68	16.02	2.61	57.89	8.16	73.92	10.77	87%	33%

2/7/02	85.52	16.18	2.63	59.63	7.08	75.81	9.71	89%	29%
2/8/02	86.75	16.41	2.67	59.93	7.73	76.34	10.41	88%	32%
2/9/02	84.83	16.05	2.61	58.88	7.29	74.93	9.90	88%	30%
2/10/02	84.31	15.95	2.60	57.99	7.77	73.94	10.37	88%	31%
2/11/02	81.14	15.35	2.50	55.68	7.60	71.04	10.10	88%	31%
2/12/02	80.65	15.26	2.48	54.93	7.98	70.19	10.46	87%	32%
2/13/02	82.19	15.55	2.53	56.63	7.47	72.18	10.01	88%	30%
2/14/02	89.57	16.95	2.76	61.64	8.22	78.59	10.98	88%	33%
2/15/02	83.29	15.76	2.57	56.86	8.10	72.62	10.67	87%	32%
2/16/02	82.06	15.53	2.53	56.71	7.30	72.23	9.82	88%	30%
2/17/02	81.37	15.39	2.51	56.33	7.13	71.72	9.64	88%	29%
2/18/02	78.12	14.78	2.41	54.16	6.78	68.94	9.18	88%	28%
2/19/02	88.68	16.78	2.73	61.17	8.01	77.95	10.74	88%	33%
2/20/02	84.12	15.92	2.59	58.61	7.01	74.52	9.60	89%	29%
2/21/02	79.88	15.11	2.46	55.38	6.92	70.49	9.38	88%	28%
2/22/02	82.07	15.53	2.53	56.30	7.72	71.82	10.24	88%	31%
2/23/02	84.40	15.97	2.60	57.59	8.25	73.56	10.85	87%	33%
2/24/02	81.64	15.45	2.51	56.28	7.39	71.73	9.91	88%	30%
2/25/02	79.60	15.06	2.45	54.96	7.13	70.02	9.58	88%	29%
2/26/02	86.17	16.30	2.65	59.99	7.22	76.29	9.88	89%	30%
2/27/02	84.30	15.95	2.60	59.07	6.69	75.02	9.28	89%	28%
2/28/02	83.59	15.82	2.57	58.28	6.92	74.10	9.49	89%	29%
3/1/02	85.62	16.20	2.64	60.15	6.63	76.35	9.27	89%	28%
3/2/02	82.76	15.66	2.55	56.27	8.29	71.93	10.84	87%	33%
3/3/02	79.60	15.06	2.45	54.63	7.46	69.69	9.91	88%	30%
3/4/02	77.66	14.69	2.39	54.18	6.40	68.88	8.79	89%	27%
3/5/02	83.88	15.87	2.58	59.39	6.04	75.26	8.62	90%	26%
3/6/02	80.61	15.25	2.48	56.91	5.96	72.17	8.45	90%	26%
3/7/02	85.15	16.11	2.62	60.24	6.18	76.35	8.80	90%	27%
3/8/02	87.71	16.59	2.70	61.71	6.70	78.31	9.40	89%	28%
3/9/02	85.07	16.10	2.62	59.49	6.87	75.58	9.49	89%	29%
3/10/02	87.63	16.58	2.70	61.88	6.47	78.46	9.17	90%	28%
3/11/02	84.87	16.06	2.61	59.41	6.79	75.47	9.40	89%	28%
3/12/02	85.61	16.20	2.64	60.64	6.14	76.84	8.77	90%	27%
3/13/02	92.12	17.43	2.84	65.47	6.38	82.90	9.22	90%	28%
3/14/02	87.33	16.52	2.69	62.46	5.65	78.99	8.34	90%	25%
3/15/02	82.67	15.64	2.55	58.67	5.82	74.31	8.36	90%	25%
3/16/02	82.69	15.64	2.55	58.37	6.13	74.01	8.68	90%	26%
3/17/02	88.05	16.66	2.71	62.17	6.51	78.82	9.22	90%	28%
3/18/02	86.97	16.46	2.68	61.70	6.14	78.15	8.82	90%	27%
3/19/02	91.55	17.32	2.82	64.89	6.51	82.21	9.33	90%	28%
3/20/02	84.69	16.02	2.61	60.07	5.99	76.09	8.59	90%	26%
3/21/02	86.18	16.30	2.65	61.12	6.10	77.43	8.75	90%	27%
3/22/02	86.86	16.43	2.68	59.59	8.16	76.02	10.84	88%	33%
3/23/02	85.50	16.18	2.63	57.45	9.24	73.63	11.87	86%	36%
3/24/02	88.12	16.67	2.71	61.65	7.08	78.33	9.80	89%	30%
3/25/02	86.53	16.37	2.67	61.47	6.02	77.85	8.69	90%	26%
3/26/02	88.54	16.75	2.73	63.12	5.95	79.87	8.67	90%	26%

3/27/02	86.13	16.30	2.65	61.27	5.91	77.56	8.57	90%	26%
3/28/02	86.93	16.45	2.68	61.91	5.89	78.35	8.57	90%	26%
3/29/02	83.25	15.75	2.56	59.24	5.70	74.99	8.26	90%	25%
3/30/02	84.53	15.99	2.60	60.10	5.83	76.09	8.44	90%	26%
3/31/02	84.99	16.08	2.62	60.35	5.94	76.43	8.56	90%	26%
4/1/02	78.48	14.85	2.42	55.10	6.11	69.95	8.53	89%	26%
4/2/02	87.06	16.47	2.68	61.83	6.08	78.30	8.76	90%	27%
4/3/02	84.82	16.05	2.61	60.48	5.68	76.53	8.29	90%	25%
4/4/02	83.48	15.79	2.57	59.00	6.12	74.79	8.69	90%	26%
4/5/02	87.67	16.59	2.70	62.06	6.32	78.65	9.02	90%	27%
4/6/02	90.49	17.12	2.79	63.44	7.14	80.56	9.93	89%	30%
4/7/02	96.87	23.62	3.84	62.48	6.93	86.10	10.77	89%	33%
4/8/02	100.27	19.29	3.14	70.90	6.94	90.19	10.08	90%	31%
4/9/02	107.47	24.54	3.99	71.95	6.98	96.49	10.98	90%	33%
4/10/02	109.40	28.42	4.63	69.36	7.00	97.77	11.63	89%	35%
4/11/02	108.09	26.55	4.32	70.29	6.93	96.84	11.25	90%	34%
4/12/02	108.84	28.88	4.70	68.32	6.94	97.19	11.64	89%	35%
4/13/02	100.63	24.51	3.99	65.17	6.96	89.68	10.95	89%	33%
4/14/02	96.72	19.71	3.21	60.82	6.98	86.53	10.19	89%	31%
4/15/02	81.40	15.40	2.51	57.79	5.70	73.19	8.21	90%	25%
4/16/02	99.41	18.81	3.06	70.32	7.22	89.13	10.28	90%	31%
4/17/02	91.07	17.23	2.80	64.36	6.68	81.58	9.49	90%	29%
4/18/02	96.33	18.23	2.97	68.11	7.03	86.33	10.00	90%	30%
4/19/02	102.70	22.80	3.71	68.86	7.34	91.66	11.05	89%	33%
4/20/02	104.90	28.23	4.60	64.72	7.35	92.95	11.94	89%	36%
4/21/02	111.21	32.09	5.22	66.42	7.47	98.51	12.69	89%	38%
4/22/02	117.53	35.02	5.70	69.94	6.87	104.96	12.57	89%	38%
4/23/02	118.84	41.75	6.80	63.41	6.88	105.16	13.68	88%	41%
4/24/02	108.63	31.29	5.09	65.02	7.23	96.31	12.32	89%	37%
4/25/02	97.86	19.09	3.11	68.32	7.34	87.41	10.44	89%	32%
4/26/02	100.53	24.25	3.95	65.39	6.94	89.64	10.89	89%	33%
4/27/02	107.19	31.61	5.15	63.62	6.82	95.23	11.96	89%	36%
4/28/02	114.07	39.32	6.40	61.64	6.71	100.96	13.11	89%	40%
4/29/02	109.67	29.32	4.77	68.78	6.79	98.10	11.56	89%	35%
4/30/02	116.73	39.80	6.48	63.48	6.97	103.28	13.45	88%	41%
5/1/02	120.70	37.40	6.09	70.35	6.86	107.75	12.95	89%	39%
5/2/02	123.82	42.82	6.97	67.04	6.98	109.86	13.95	89%	42%
5/3/02	122.48	40.79	6.64	68.33	6.71	109.13	13.35	89%	40%
5/4/02	129.19	42.59	6.93	72.69	6.98	115.28	13.91	89%	42%
5/5/02	130.11	43.12	7.02	73.16	6.80	116.28	13.82	89%	42%
5/6/02	117.56	37.66	6.13	66.88	6.89	104.54	13.02	89%	39%
5/7/02	125.66	42.45	6.91	69.57	6.73	112.02	13.64	89%	41%
5/8/02	120.77	42.60	6.94	64.57	6.66	107.18	13.60	89%	41%
5/9/02	126.75	46.26	7.53	66.18	6.78	112.44	14.31	89%	43%
5/10/02	133.69	52.60	8.56	65.81	6.72	118.41	15.28	89%	46%
5/11/02	136.36	52.99	8.63	67.39	7.35	120.38	15.98	88%	48%
5/12/02	132.86	54.73	8.91	62.58	6.65	117.31	15.55	88%	47%
5/13/02	129.81	44.20	7.19	71.19	7.22	115.39	14.42	89%	44%

5/14/02	137.04	51.56	8.39	69.99	7.10	121.55	15.49	89%	47%
5/15/02	135.15	58.12	9.46	60.79	6.77	118.92	16.23	88%	49%
5/16/02	137.93	55.76	9.08	66.47	6.62	122.23	15.70	89%	48%
5/17/02	127.47	46.84	7.62	66.25	6.76	113.08	14.39	89%	44%
5/18/02	140.92	58.73	9.56	65.74	6.89	124.46	16.45	88%	50%
5/19/02	144.17	67.29	10.95	59.27	6.65	126.56	17.61	88%	53%
5/20/02	133.57	55.18	8.98	62.67	6.74	117.84	15.72	88%	48%
5/21/02	120.81	44.06	7.17	63.07	6.52	107.12	13.69	89%	41%
5/22/02	118.37	42.56	6.93	62.72	6.15	105.29	13.08	89%	40%
5/23/02	112.14	36.17	5.89	63.46	6.62	99.63	12.50	89%	38%
5/24/02	114.89	37.47	6.10	64.60	6.72	102.07	12.82	89%	39%
5/25/02	107.81	31.08	5.06	65.28	6.39	96.36	11.45	89%	35%
5/26/02	105.01	34.27	5.58	58.93	6.23	93.20	11.81	89%	36%
5/27/02	104.65	33.18	5.40	59.51	6.56	92.69	11.96	89%	36%
5/28/02	105.09	30.08	4.90	63.60	6.51	98.89	11.40	89%	35%
5/29/02	102.67	27.83	4.53	63.62	6.69	91.45	11.22	89%	34%
5/30/02	110.58	29.46	4.80	69.27	7.06	98.73	11.85	89%	36%
5/31/02	110.78	31.12	5.07	68.57	6.04	99.68	11.10	90%	34%
6/1/02	104.34	27.34	4.45	65.97	6.57	93.32	11.03	89%	33%
6/2/02	102.73	25.89	4.21	66.23	6.40	92.12	10.61	90%	32%
6/3/02	108.80	28.37	4.62	68.78	7.04	97.14	11.66	89%	35%
6/4/02	120.87	39.34	6.40	68.56	6.57	107.89	12.98	89%	39%
6/5/02	126.20	44.52	7.25	67.15	7.28	111.67	14.53	88%	44%
6/6/02	130.41	48.82	7.95	67.49	6.15	116.31	14.10	89%	43%
6/7/02	120.50	32.22	5.25	75.22	7.82	107.44	13.07	89%	40%
6/8/02	114.97	37.25	6.06	64.58	7.08	101.83	13.14	89%	40%
6/9/02	117.00	44.04	7.17	59.20	6.59	103.24	13.76	88%	42%
6/10/02	123.04	43.02	7.00	66.37	6.65	109.39	13.65	89%	41%
6/11/02	127.52	48.53	7.90	64.44	6.65	112.97	14.55	89%	44%
6/12/02	124.61	44.53	7.25	65.30	7.53	109.83	14.78	88%	45%
6/13/02	117.64	40.19	6.54	65.40	5.51	105.59	12.05	90%	37%
6/14/02	122.94	43.69	7.11	65.35	6.79	109.03	13.90	89%	42%
6/15/02	123.80	47.81	7.78	61.31	6.90	109.12	14.68	88%	44%
6/16/02	121.12	46.81	7.62	60.68	6.01	107.49	13.63	89%	41%
6/17/02	126.50	48.53	7.90	63.58	6.49	112.11	14.39	89%	44%
6/18/02	142.26	61.53	10.02	64.20	6.52	125.73	16.53	88%	50%
6/19/02	139.06	58.74	9.56	64.13	6.63	122.87	16.19	88%	49%
6/20/02	143.28	63.05	10.26	63.31	6.65	126.36	16.92	88%	51%
6/21/02	141.35	57.86	9.42	67.40	6.66	125.26	16.08	89%	49%
6/22/02	130.44	51.70	8.42	63.83	6.49	115.53	14.90	89%	45%
6/23/02	111.68	36.01	5.86	63.07	6.73	99.08	12.60	89%	38%
6/24/02	115.27	38.69	6.30	63.15	7.13	101.84	13.43	88%	41%
6/25/02	120.50	40.92	6.66	66.84	6.07	107.76	12.74	89%	39%
6/26/02	116.14	35.66	5.80	68.05	6.63	103.70	12.44	89%	38%
6/27/02	119.21	37.26	6.07	69.10	6.79	106.35	12.86	89%	39%
6/28/02	119.94	39.23	6.39	67.51	6.81	106.74	13.20	89%	40%
6/29/02	122.67	44.88	7.31	63.87	6.62	108.75	13.93	89%	42%
6/30/02	121.06	45.15	7.35	62.35	6.21	107.50	13.56	89%	41%

7/1/02	122.20	45.00	7.33	63.17	6.71	108.17	14.04	89%	43%
7/2/02	128.26	48.33	7.87	65.90	6.17	114.23	14.04	89%	43%
7/3/02	112.48	31.98	5.21	68.15	7.14	100.13	12.35	89%	37%
7/4/02	110.16	35.86	5.84	61.82	6.64	97.68	12.48	89%	38%
7/5/02	105.58	26.87	4.37	67.79	6.54	94.66	10.92	90%	33%
7/6/02	115.33	42.23	6.87	59.77	6.45	102.00	13.33	88%	40%
7/7/02	115.19	42.16	6.86	59.45	6.72	101.61	13.58	88%	41%
7/8/02	106.70	28.96	4.72	66.42	6.60	95.38	11.32	89%	34%
7/9/02	116.72	38.84	6.32	64.83	6.73	103.67	13.05	89%	40%
7/10/02	125.39	45.75	7.45	65.40	6.80	111.14	14.24	89%	43%
7/11/02	131.97	51.82	8.44	64.83	6.87	116.66	15.31	88%	46%
7/12/02	133.02	52.31	8.52	65.42	6.78	117.72	15.30	88%	46%
7/13/02	118.83	39.49	6.43	65.74	7.17	105.23	13.60	89%	41%
7/14/02	121.93	23.97	3.90	86.66	7.39	110.64	11.29	91%	34%
7/15/02	132.19	44.20	7.20	73.20	7.60	117.89	14.80	89%	45%
7/16/02	136.77	49.42	8.04	72.43	6.88	121.85	14.92	89%	45%
7/17/02	137.26	51.75	8.42	69.68	7.40	121.43	15.83	88%	48%
7/18/02	136.09	48.40	7.88	72.90	6.91	121.30	14.79	89%	45%
7/19/02	127.29	45.33	7.38	67.68	6.90	113.01	14.28	89%	43%
7/20/02	127.00	49.04	7.98	63.03	6.96	112.06	14.94	88%	45%
7/21/02	133.12	56.50	9.20	61.30	6.12	117.80	15.32	88%	46%
7/22/02	136.46	54.00	8.79	67.07	6.60	121.07	15.39	89%	47%
7/23/02	128.58	46.76	7.61	67.61	6.61	114.37	14.22	89%	43%
7/24/02	115.51	35.90	5.84	66.45	7.31	102.36	13.15	89%	40%
7/25/02	111.90	30.11	4.90	69.97	6.91	100.08	11.81	89%	36%
7/26/02	109.24	29.40	4.79	68.11	6.94	97.52	11.72	89%	36%
7/27/02	110.69	33.18	5.40	65.30	6.81	98.48	12.21	89%	37%
7/28/02	108.38	33.32	5.42	63.13	6.51	96.45	11.93	89%	36%
7/29/02	103.31	27.77	4.52	64.39	6.62	92.16	11.14	89%	34%
7/30/02	113.73	36.15	5.89	66.21	5.48	102.36	11.37	90%	34%
7/31/02	115.84	37.57	6.12	65.32	6.83	102.89	12.95	89%	39%
8/1/02	120.99	42.88	6.98	65.17	5.95	108.06	12.93	89%	39%
8/2/02	125.69	45.26	7.37	66.61	6.45	111.87	13.82	89%	42%
8/3/02	130.35	50.32	8.19	64.80	7.03	115.13	15.23	88%	46%
8/4/02	118.63	43.90	7.15	60.60	6.98	104.50	14.13	88%	43%
8/5/02	127.44	47.83	7.79	65.11	6.71	112.94	14.50	89%	44%
8/6/02	135.55	53.83	8.76	66.47	6.49	120.30	15.26	89%	46%
8/7/02	137.52	58.04	9.45	63.71	6.32	121.75	15.77	89%	48%
8/8/02	143.12	62.63	10.20	64.16	6.13	126.79	16.33	89%	49%
8/9/02	140.05	59.19	9.63	64.32	6.91	123.50	16.55	88%	50%
8/10/02	143.61	66.13	10.76	60.63	6.09	126.75	16.86	88%	51%
8/11/02	133.82	58.14	9.46	59.89	6.33	118.03	15.79	88%	48%
8/12/02	138.45	59.88	9.75	62.85	5.97	122.73	15.72	89%	48%
8/13/02	132.00	52.15	8.49	65.06	6.30	117.21	14.79	89%	45%
8/14/02	129.96	51.79	8.43	63.34	6.40	115.13	14.83	89%	45%
8/15/02	131.28	46.93	7.64	69.76	6.96	116.68	14.60	89%	44%
8/16/02	135.20	51.27	8.35	67.93	7.66	119.19	16.01	88%	49%
8/17/02	134.18	44.04	7.17	74.78	8.19	118.82	15.36	89%	47%

8/18/02	118.91	38.84	6.32	66.65	7.10	105.48	13.43	89%	41%
8/19/02	126.59	43.61	7.10	68.93	6.96	112.54	14.06	89%	43%
8/20/02	136.07	53.08	8.64	66.18	8.16	119.27	16.80	88%	51%
8/21/02	135.18	56.85	9.25	62.34	6.73	119.19	15.99	88%	48%
8/22/02	143.11	62.80	10.22	62.96	7.13	125.76	17.36	88%	53%
8/23/02	142.09	57.25	9.32	68.43	7.08	125.68	16.40	88%	50%
8/24/02	133.16	48.44	7.89	69.89	6.94	118.33	14.83	89%	45%
8/25/02	142.65	59.34	9.66	66.18	7.46	125.52	17.12	88%	52%
8/26/02	139.22	55.43	9.02	69.20	5.57	124.62	14.59	90%	44%
8/27/02	145.87	64.64	10.52	63.35	7.35	127.99	17.88	88%	54%
8/28/02	141.77	54.10	8.81	71.86	7.00	125.96	15.81	89%	48%
8/29/02	140.67	57.77	9.41	66.60	6.89	124.37	16.30	88%	49%
8/30/02	132.13	52.78	8.59	64.11	6.65	116.89	15.25	88%	46%
8/31/02	132.93	46.43	7.56	70.82	8.12	117.25	15.68	88%	48%
9/1/02	115.64	25.83	4.20	76.77	8.83	102.60	13.04	89%	40%
9/2/02	114.48	29.09	4.74	71.57	9.09	100.66	13.82	88%	42%
9/3/02	113.64	26.88	4.38	73.26	9.13	100.14	13.50	88%	41%
9/4/02	108.57	33.37	5.43	61.58	8.19	94.95	13.62	87%	41%
9/5/02	111.37	32.67	5.32	64.64	8.74	97.31	14.06	87%	43%
9/6/02	111.05	32.10	5.23	64.76	8.96	96.86	14.19	87%	43%
9/7/02	117.49	40.26	6.55	62.57	8.10	102.84	14.65	88%	44%
9/8/02	119.03	42.41	6.90	61.66	8.06	104.06	14.96	87%	45%
9/9/02	112.44	31.63	5.15	66.54	9.12	98.17	14.27	87%	43%
9/10/02	119.96	41.32	6.73	63.35	8.57	104.66	15.29	87%	46%
9/11/02	117.01	39.71	6.46	62.52	8.31	102.23	14.78	87%	45%
9/12/02	123.19	46.01	7.49	61.86	7.83	107.87	15.32	88%	46%
9/13/02	124.60	45.47	7.40	63.75	7.97	109.23	15.37	88%	47%
9/14/02	123.79	35.34	5.75	74.39	8.31	109.73	14.06	89%	43%
9/15/02	119.41	27.45	4.47	78.46	9.03	105.91	13.50	89%	41%
9/16/02	120.36	22.77	3.71	84.85	9.03	107.62	12.74	89%	39%
9/17/02	128.17	36.83	6.00	76.44	8.90	113.27	14.89	88%	45%
9/18/02	126.19	43.30	7.05	67.25	8.60	110.55	15.64	88%	47%
9/19/02	124.54	42.86	6.98	65.77	8.94	108.63	15.91	87%	48%
9/20/02	111.63	30.55	4.97	66.70	9.41	97.25	14.39	87%	44%
9/21/02	114.97	32.93	5.36	67.49	9.19	100.42	14.55	87%	44%
9/22/02	116.97	36.30	5.91	66.39	8.37	102.69	14.28	88%	43%
9/23/02	115.92	33.78	5.50	68.66	7.98	102.44	13.48	88%	41%
9/24/02	109.41	28.66	4.67	67.85	8.23	96.51	12.90	88%	39%
9/25/02	102.23	22.91	3.73	67.81	7.78	90.72	11.51	89%	35%
9/26/02	105.41	19.94	3.25	74.05	8.17	93.99	11.42	89%	35%
9/27/02	110.43	22.15	3.61	75.71	8.96	97.87	12.56	89%	38%
9/28/02	113.16	25.80	4.20	73.20	9.96	99.00	14.16	87%	43%
9/29/02	114.13	31.95	5.20	67.42	9.57	99.37	14.77	87%	45%
9/30/02	116.87	33.88	5.52	67.65	9.83	101.53	15.34	87%	46%
10/1/02	122.98	37.20	6.06	69.86	9.86	107.06	15.92	87%	48%
10/2/02	121.99	41.27	6.72	63.84	10.17	105.10	16.89	86%	51%
10/3/02	127.93	46.25	7.53	66.03	8.12	112.28	15.65	88%	47%
10/4/02	126.00	44.23	7.20	66.55	8.02	110.77	15.22	88%	46%

10/5/02	119.98	38.11	6.20	68.18	7.49	106.28	13.70	89%	42%
10/6/02	103.04	26.45	4.31	64.92	7.36	91.37	11.67	89%	35%
10/7/02	107.04	27.27	4.44	67.37	7.96	94.64	12.40	88%	38%
10/8/02	115.02	36.86	6.00	64.26	7.91	101.12	13.91	88%	42%
10/9/02	114.49	38.01	6.19	62.59	7.71	100.59	13.90	88%	42%
10/10/02	118.04	40.54	6.60	63.33	7.57	103.87	14.17	88%	43%
10/11/02	116.38	22.02	3.58	80.82	9.96	102.84	13.54	88%	41%
10/12/02	114.75	21.71	3.53	81.31	8.20	103.02	11.73	90%	36%
10/13/02	116.67	22.07	3.59	81.99	9.01	104.06	12.60	89%	38%
10/14/02	99.66	18.86	3.07	69.99	7.74	88.85	10.81	89%	33%
10/15/02	107.86	20.41	3.32	76.71	7.42	97.12	10.74	90%	33%
10/16/02	109.52	20.72	3.37	75.13	10.30	95.85	13.67	88%	41%
10/17/02	111.09	21.02	3.42	78.09	8.57	99.11	11.99	89%	36%
10/18/02	110.92	21.63	3.52	78.03	7.73	99.67	11.25	90%	34%
10/19/02	112.99	25.95	4.22	74.98	7.83	100.93	12.05	89%	37%
10/20/02	115.83	33.25	5.41	69.56	7.61	102.81	13.02	89%	39%
10/21/02	113.69	29.25	4.76	71.06	8.61	100.32	13.37	88%	41%
10/22/02	121.13	34.48	5.61	73.07	7.97	107.55	13.58	89%	41%
10/23/02	119.76	40.09	6.53	65.51	7.63	105.60	14.15	88%	43%
10/24/02	121.06	40.44	6.58	66.17	7.85	106.62	14.44	88%	44%
10/25/02	109.42	32.88	5.35	63.31	7.87	96.19	13.22	88%	40%
10/26/02	104.93	23.69	3.86	67.66	9.72	91.35	13.58	87%	41%
10/27/02	100.59	20.94	3.41	66.00	10.24	86.94	13.65	86%	41%
10/28/02	104.00	20.37	3.32	69.73	10.58	90.10	13.90	87%	42%
10/29/02	109.43	20.70	3.37	74.94	10.42	95.64	13.79	87%	42%
10/30/02	111.43	28.89	4.70	67.85	9.99	96.74	14.70	87%	45%
10/31/02	104.92	28.66	4.67	61.43	10.17	90.09	14.83	86%	45%
11/1/02	106.27	27.25	4.44	64.63	9.95	91.88	14.38	86%	44%
11/2/02	107.34	34.86	5.67	56.99	9.82	91.85	15.50	86%	47%
11/3/02	107.14	28.57	4.65	64.07	9.85	92.64	14.50	86%	44%
11/4/02	106.90	28.22	4.59	64.18	9.91	92.40	14.50	86%	44%
11/5/02	108.01	23.68	3.85	70.36	10.12	94.04	13.97	87%	42%
11/6/02	107.47	20.33	3.31	72.63	11.20	92.96	14.51	86%	44%
11/7/02	108.93	22.95	3.74	72.58	9.66	95.54	13.39	88%	41%
11/8/02	113.58	25.24	4.11	73.41	10.82	98.65	14.93	87%	45%
11/9/02	115.45	32.14	5.23	67.52	10.55	99.66	15.78	86%	48%
11/10/02	113.63	33.29	5.42	64.93	9.99	98.22	15.41	86%	47%
11/11/02	109.20	26.42	4.30	68.74	9.74	95.16	14.04	87%	43%
11/12/02	113.81	21.53	3.51	77.14	11.63	98.67	15.13	87%	46%
11/13/02	108.72	20.57	3.35	74.36	10.44	94.93	13.79	87%	42%
11/14/02	110.66	20.94	3.41	76.50	9.82	97.43	13.23	88%	40%
11/15/02	109.67	20.75	3.38	75.87	9.67	96.61	13.05	88%	40%
11/16/02	112.29	21.24	3.46	77.33	10.25	98.58	13.71	88%	42%
11/17/02	117.86	22.30	3.63	77.77	14.16	100.07	17.79	85%	54%
11/18/02	110.43	20.89	3.40	69.07	17.07	89.96	20.47	81%	62%
11/19/02	112.71	21.33	3.47	78.26	9.66	99.59	13.13	88%	40%
11/20/02	107.73	20.38	3.32	74.73	9.29	95.11	12.61	88%	38%
11/21/02	109.02	21.28	3.46	73.86	10.43	95.13	13.89	87%	42%

11/22/02	95.05	17.98	2.93	66.97	7.16	84.96	10.09	89%	31%
11/23/02	95.23	20.64	3.36	64.01	7.23	84.65	10.59	89%	32%
11/24/02	90.02	17.03	2.77	62.99	7.22	80.03	10.00	89%	30%
11/25/02	93.06	17.61	2.87	65.08	7.51	82.68	10.37	89%	31%
11/26/02	100.39	21.69	3.53	67.86	7.31	89.55	10.84	89%	33%
11/27/02	100.57	24.52	3.99	64.38	7.67	88.90	11.66	88%	35%
11/28/02	104.47	29.90	4.87	62.97	6.73	92.87	11.59	89%	35%
11/29/02	97.59	29.72	4.84	56.62	6.41	86.34	11.25	88%	34%
11/30/02	95.13	22.97	3.74	61.14	7.27	84.12	11.01	88%	33%
12/1/02	94.91	26.57	4.33	57.98	6.03	84.55	10.35	89%	31%
12/2/02	93.08	19.65	3.20	64.15	6.08	83.80	9.28	90%	28%
12/3/02	96.35	22.22	3.62	64.18	6.33	86.40	9.95	90%	30%
12/4/02	97.65	23.20	3.78	64.67	6.00	87.87	9.78	90%	30%
12/5/02	100.67	19.05	3.10	71.85	6.67	90.90	9.77	90%	30%
12/6/02	98.81	18.69	3.04	70.87	6.20	89.56	9.25	91%	28%
12/7/02	99.93	18.91	3.08	71.04	6.91	89.95	9.99	90%	30%
12/8/02	99.49	18.82	3.06	71.34	6.26	90.16	9.33	91%	28%
12/9/02	94.96	17.97	2.92	67.61	6.45	85.58	9.38	90%	28%
12/10/02	93.19	17.63	2.87	68.44	6.25	84.07	9.12	90%	28%
12/11/02	90.02	17.03	2.77	63.97	6.25	81.00	9.02	90%	27%
12/12/02	87.93	16.64	2.71	62.43	6.16	79.07	8.87	90%	27%
12/13/02	90.49	17.12	2.79	65.41	5.17	82.53	7.96	91%	24%
12/14/02	84.07	15.91	2.59	60.30	5.27	76.21	7.86	91%	24%
12/15/02	88.15	16.68	2.72	63.45	5.31	80.13	8.02	91%	24%
12/16/02	86.72	16.41	2.67	62.03	5.61	78.44	8.29	90%	25%
12/17/02	90.43	17.11	2.79	64.89	5.65	81.99	8.43	91%	26%
12/18/02	89.65	16.96	2.76	64.94	4.98	81.90	7.74	91%	23%
12/19/02	86.70	16.40	2.67	61.22	6.41	77.63	9.08	90%	28%
12/20/02	87.16	16.49	2.68	62.29	5.69	78.78	8.37	90%	25%
12/21/02	84.40	15.97	2.60	59.95	5.88	75.92	8.47	90%	26%
12/22/02	79.14	14.97	2.44	56.46	5.27	71.43	7.71	90%	23%
12/23/02	79.30	15.00	2.44	56.36	5.50	71.36	7.94	90%	24%
12/24/02	78.83	14.91	2.43	56.14	5.35	71.05	7.78	90%	24%
12/25/02	75.76	14.33	2.33	53.54	5.55	67.87	7.89	90%	24%
12/26/02	83.16	15.73	2.56	59.24	5.62	74.98	8.18	90%	25%
12/27/02	81.81	15.48	2.52	59.33	4.48	74.81	7.00	91%	21%
12/28/02	84.50	15.99	2.60	61.13	4.78	77.11	7.38	91%	22%
12/29/02	83.79	15.85	2.58	60.43	4.93	76.28	7.51	91%	23%
12/30/02	81.19	15.36	2.50	57.64	5.68	73.01	8.19	90%	25%
12/31/02	85.13	16.11	2.62	60.58	5.82	76.69	8.45	90%	26%
Minimum	75.76	14.33	2.33	53.54	4.48	67.87	7.00	81%	21%
Maximum	145.87	67.29	10.95	86.66	17.07	127.99	20.47	91%	62%
Average	106.79	29.95	4.88	64.66	7.31	94.61	12.18	89%	37%